



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,756	03/03/2004	Laure Seguin	249572US2	2905
22850	7590	02/07/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER HO, HUY C	
			ART UNIT 2617	PAPER NUMBER
			NOTIFICATION DATE 02/07/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/790,756	SEGUIN, LAURE	
	Examiner	Art Unit	
	Huy C. Ho	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 09 November 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-12 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 03 March 2004 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Heberling** (2003/0214967) and further in view of **Johansson et al.** (2002/0044549).

Consider claim 1, (Previously presented) Heberling discloses a method for channel allocation in an ad-hoc radio communication system comprising devices having an equivalent communication architecture, the devices being gathered in several piconets, the devices of a same piconet being able to directly communicate with one another, a piconet coordinator (PNC) being defined among the devices forming each piconet, the radio communication between the devices being based on Code Division Multiple Access (CDMA) wherein a set of available CDMA codes is split into pre-defined

disjoined subsets of CDMA codes (Ci), all the subsets of CDMA codes (Ci) being known by each device, and all the devices of a same piconet using CDMA codes in the same associated subset of codes (Ci) for communicating with one another, and in that for each new device added to the ad-hoc radio communication system (**sections [10], [38]**), the method comprises:

each new device scanning its radio environment looking for at least one used subset of CDMA codes (Ci) which is associated with an existing piconet (**sections [56], [58], [73]**),

a piconet coordinator (PNC) selecting a subset of CDMA codes (Ci) for use in the new piconet if no used subset or subsets of CDMA codes (Ci) are found by the scanning (**sections [58]-[60], [63], [68], [71]**), or

joining the new device into an existing piconet among a set of available piconets found by the scanning to be using an existing subset of CDMA codes (Ci), and using said existing subset of CDMA codes (Ci) for the next communications between the new device and the other devices of the existing piconet that is joined (**sections [58]-[60], [67], [71]**).

Heberling does not specify the scanning non-coordinator device a new PNC, but it is noticeable Heberling is discussing the coordinator device joins another network and it checks for the channel availability in that network, there two possibilities: 1. if there is available channel, the coordinator may join the network, 2. if no channel available, then the coordinator continues operating its current network (**see section [71]**). Johansson discloses a Bluetooth unit scans and searches for available communication channel with other devices in a piconet, and the Bluetooth unit becomes a new master in the new piconet if its previous role is not a master role, thus Johansson discloses making the new device a piconet coordinator (PNC) (**see sections [13], [18]**).

Since both Heberling and Johansson teach method and system for resource allocation in ad hoc network, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Heberling and have making the new device a piconet coordinator (PNC), to improve the system of efficiently forming a scatter network, as discussed by Johansson (**see sections [1]-[22]**).

Consider claim 11, (Previously presented) Heberling discloses a particular device configured to be used in an ad-hoc radio communication system made up of the particular device and other devices having an equivalent communication architecture, the particular device and the other devices being configured to be gathered in several piconets, each device being able to directly communicate with other devices of a same piconet by implementing a Code Division Multiple Access (CDMA) transmission method, wherein the set of available codes is split into pre-defined disjoined subsets of CDMA codes (Ci) and each device comprises means in which all the subsets of CDMA codes (Ci) are stored, and each device is adapted to use the CDMA codes from a subset of CDMA codes (Ci) associated with a particular piconet for communicating with other devices of the particular piconet; and in that the particular device includes:

means for scanning the radio environment looking for at least one used subset of CDMA codes (Ci) associated with an existing piconet when the particular device is added in to the ad-hoc radio communication system (**sections [56], [58], [73]**), and

means for:

a piconet coordinator (PNC) selecting a subset of CDMA codes (Ci) for the new piconet if no use of at least one of the subset of CDMA codes (Ci) is determined to be present as a result of the scan performed by the means for scanning (**sections [58]-[60], [63], [68], [71]**), or

joining an existing piconet among a set of available piconets all of which are determined to be using at least one of the subset of CDMA codes (Ci) as a result of the scan performed by the means for scanning and for using said at least one used subset of CDMA codes for the next communications with other devices of the joined existing piconet (**sections [58]-[60], [67], [71]**).

Heberling does not specify the scanning non-coordinator device a new PNC, but it is noticeable Heberling is discussing the coordinator device joins another network and it checks for the channel availability in that network, there two possibilities: 1. if there is available channel, the coordinator

may join the network, 2. if no channel available, then the coordinator continues operating its current network (**see section [71]**). Johansson discloses a Bluetooth unit scans and searches for available communication channel with other devices in a piconet, and the Bluetooth unit becomes a new master in the new piconet if its previous role is not a master role, thus Johansson discloses becoming a piconet coordinator of a new device a piconet (**see sections [13], [18]**).

Since both Heberling and Johansson teach method and system for resource allocation in ad hoc network, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Heberling and have becoming a piconet coordinator of a new device a piconet, to improve the system of efficiently forming a scatter network, as discussed by Johansson (**see sections [1]-[22]**).

Consider claim 12, (Previously presented) Heberling discloses ad-hoc radio communication system comprising devices having an equivalent communication architecture, the devices being gathered in several piconets, the devices of a same piconet all being able to directly communicate with one another, each piconet including a piconet coordinator (PNC), the multiple access scheme for the radio communication between the devices being a Code Division Multiple Access (CDMA) scheme, wherein the set of available codes is split into pre-defined disjoined subsets of CDMA codes (Ci), all the subsets of CDMA codes (Ci) being known by each device, and all the devices of a same piconet using CDMA codes in the same associated subset of CDMA codes (Ci) for communicating with one another, and in that each device includes:

means for scanning the radio environment looking for at least one used subset of CDMA codes (Ci) which is associated with an existing piconet when the device is added in the ad-hoc radio communication system (**sections [56], [58], [73]**), and

means for:

becoming a piconet coordinator (PNC) of a piconet and for selecting a subset of CDMA codes (Ci) for the new piconet if no existing piconet is determined to be using at least one of

the subset of CDMA codes (Ci) as a result of the scan performed by the means for scanning (sections [58]-[60], [63], [68], [71]), or

joining an existing piconet among a set of available piconets all of which are determined to be using at least one of the subset of CDMA codes (Ci) as a result of the scan performed by the means for scanning and for using said at least one used subset of CDMA codes for the next communications with other devices of the joined existing piconet (sections [58]-[60], [67], [71]).

Heberling does not specify the scanning non-coordinator device a new PNC, but it is noticeable Heberling is discussing the coordinator device joins another network and it checks for the channel availability in that network, there two possibilities: 1. if there is available channel, the coordinator may join the network, 2. if no channel available, then the coordinator continues operating its current network (see section [71]). Johansson discloses a Bluetooth unit scans and searches for available communication channel with other devices in a piconet, and the Bluetooth unit becomes a new master in the new piconet if its previous role is not a master role, thus Johansson discloses becoming a piconet coordinator of a new device a piconet (see sections [13], [18]).

Since both Heberling and Johansson teach method and system for resource allocation in ad hoc network, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Heberling and have becoming a piconet coordinator of a new device a piconet, to improve the system of efficiently forming a scatter network, as discussed by Johansson (see sections [1]-[22]).

Consider claim 2, (Currently amended) Method according to claim 1, Heberling as modified by Johansson, further discloses defining a broadcast code (Ci_bc) in each subset of CDMA codes (Ci) permitting the piconet coordinator (PNC) to broadcast information towards all the devices of the associated piconet wherein the scanning of the radio environment by each new device is performed by looking for any CDMA broadcast code (Ci_bc) for determining that at least one [[at]] used subset of CDMA codes (Ci) which is associated with an existing piconet is present (sections [9], [12]).

Consider claim 3, (Previously Presented) Method according to any one of the preceding claims, Heberling as modified by Johansson, further discloses wherein, if the new device scanning its radio environment determines one or more subsets of CDMA codes (Ci) are being used by a set of existing piconets corresponding to each subset of CDMA codes (Ci) being used, the new device determines availability of each of the existing piconets corresponding to each subset of CDMA codes (Ci) being used based on applying an availability criteria (sections [55]-[56], [58], [63], [73]).

Consider claim 4, (Previously presented) Method according to claim 3, wherein the availability criteria is based on the load of the piconet (**section [55]**).

Consider claim 5, (Currently Amended) Method according to claim 2, Heberling as modified by Johansson, further discloses wherein

if the new device scanning its radio environment determines one or more subsets of CDMA codes (Ci) are being used by a set of existing piconets corresponding to each subset of CDMA codes (Ci) being used, the new device determines availability of each of the existing piconets corresponding to each subset of CDMA codes (Ci) being used based on applying an availability criteria (sections [56], [58], [63], [73]),

if none of the existing piconets corresponding to each subset of CDMA codes (Ci) being used is determined to meet the availability criteria, designating the new device as a piconet coordinator (PNC) of a new piconet and selecting a not yet used subset of CDMA codes (Ci) for use in the new piconet, if only a single piconet corresponding to each subset of CDMA codes (Ci) being used is determined to meet the availability criteria, adding the new device to said single piconet and uses the subset of CDMA codes (Ci) of said single piconet for the next communications (see Johansson, sections [13], [18]), and

if more than one existing piconet corresponding to each subset of CDMA codes (Ci) being used is determined to meet the availability criteria, ordering the more than one existing piconet corresponding to each subset of CDMA codes (Ci) being used into a set of ordered available piconets according to a

predetermined criteria and adding the new device to the first available piconet in the set of ordered available piconets (**sections [56], [58], [63], [73]**).

Consider claim 6, (Previously presented) Method according to claim 5, Heberling as modified by Johansson, further discloses wherein said criteria is radio quality (**sections [55], [63]**).

Consider claim 7, (Previously presented) Method according to claim 2, Heberling as modified by Johansson, further discloses wherein adding the new device to an existing piconet includes the new device sending a request for attachment to the piconet coordinator (PNC) of the existing piconet being joined by the new device and on receiving said request for attachment, the piconet coordinator (PNC) of the existing piconet sending an indication of a CDMA reception code ($C_{i,j}$) among the subset of CDMA codes (C_i) associated with the existing piconet to the new device and the new device using the CDMA reception code ($C_{i,j}$) for reception of data (**sections [56], [58], [73]**).

Consider claim 8, (Currently Amended) Method according to claim 7, Heberling as modified by Johansson, further discloses wherein said indication of the CDMA reception code ($C_{i,j}$) is a pointer of 8 bits as defined in 802.15.3 standard, said pointer indicating the CDMA reception code ($C_{i,j}$) as known by the new device (**section [58]**).

Consider claim 9, (Previously presented) Method according to claim 7 Heberling as modified by Johansson, further discloses wherein after a new device has joined an existing piconet, the piconet coordinator (PNC) of the existing piconet sending an identification of the new device together with an indication of the reception code ($C_{i,j}$) to be used for reception by the new device to the other devices of the existing piconet (**sections [63], [71]**).

Consider claim 10, (Previously presented) Method according to claim 7, Heberling as modified by Johansson, discloses wherein, when a given device is sending data with a given reception CDMA code ($C_{i,j}$) to an expected receiving device in the same piconet, the given device also sending attributes relating to the expected receiving device and the expected receiving device having the given reception CDMA code ($C_{i,j}$) processing the sent data only if the sent attributes relate to it (**sections [63], [68]-[69], [97]**).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy C. Ho whose telephone number is (571) 270-1108. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


DUC M. NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600